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*The Trusted Integrator for Sustainable Solutions*

November 7, 2013

Mr. Andrew Fessler, Work Assignment Manager  
U.S. Environmental Protection Agency  
290 Broadway - 18th Floor  
New York, NY 10007-1866

**Document Control No.: 2223-2A-BJNA**

**Subject:       Abbreviated Preliminary Assessment Checklist**  
**9540 Niagara Falls Boulevard**  
**Contract No.: EP-S5-06-04, TDD No.: S05-0013-1307-008**

Dear Mr. Fessler,

Weston Solutions, Inc. (WESTON®) is pleased to submit the draft Abbreviated Preliminary Assessment Checklist for the 9540 Niagara Falls Boulevard site in Niagara Falls, New York. If you have any questions, please contact me at (732) 417-5814.

Very truly yours,

WESTON SOLUTIONS, INC.

A handwritten signature in black ink that reads "Denise Breen". The signature is written in a cursive, flowing style.

Denise Breen  
Assistant Project Scientist

enclosure

cc:     C. Romano, EPA (w/o enclosure)  
       G. Gilliland, WESTON  
       file

## ABBREVIATED PRELIMINARY ASSESSMENT CHECKLIST

This checklist can be used to help the site investigator determine if an Abbreviated Preliminary Assessment (APA) is warranted. This checklist should document the rationale for the decision on whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

**Checklist Preparer:** Denise Breen / Assistant Project Scientist November 7, 2013  
 (Name/Title) (Date)

205 Campus Drive, Edison, NJ 08837 (732) 417-5800  
 (Address) (Phone)

Denise.Breen@westonsolutions.com  
 (E-Mail Address)

**Site Name:** 9540 Niagara Falls Boulevard

**Previous Names (if any):** None

**Site Location:** 9524/9540 Niagara Falls Boulevard  
 (Street)

Niagara Falls, NY 14304  
 (City) (ST) (Zip)

**Latitude:** 43.0964 North **Longitude:** -78.952686 West  
 (Using the building at 9524 Niagara Falls Boulevard as the reference point).

### **Describe the release (or potential release) and its probable nature:**

The 9540 Niagara Falls Boulevard site, hereinafter referred to as "the site", is located in a mixed commercial and residential area of Niagara Falls, New York, as shown on Figures 1 and 2 in the Appendix. The site consists of two parcels, namely 9524 and 9540 Niagara Falls Boulevard, and encompasses approximately 1 acre. Currently, the 9540 Niagara Falls Boulevard property contains a vacant building and an asphalt parking lot; the 9524 Niagara Falls Boulevard property contains a bowling alley and an asphalt parking lot. The properties are bordered to the north by a wooded area, to the east by a church, to the south by Niagara Falls Boulevard and a residential area, and to the west by a hotel and residential area.

In 1978, the U.S. Department of Energy conducted an aerial radiological survey of the Niagara Falls region. More than 15 properties were identified as having elevated levels of radiation above background levels. It is believed that, in the early 1960s, slag from the Union Carbide facility located on 47<sup>th</sup> Street in Niagara Falls was used as fill on the properties prior to paving. The Union Carbide facility processed ore containing naturally-occurring high levels of uranium and thorium to extract niobium. The slag contained sufficient quantities of uranium and thorium to be classified as a licensable radioactive source material. Union Carbide subsequently obtained a license from the Atomic Energy Commission, now the Nuclear Regulatory Commission (NRC), and the State of New York; however, the slag had been used as fill throughout the Niagara Falls region prior to licensing. Based on the original survey and subsequent investigations, it is believed that the radioactive Union Carbide slag was deposited on the 9540 Niagara Falls Boulevard site.

In April and May 1979, the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) conducted a radiological survey of the interior of the buildings and in

the parking lots; they also collected samples of the slag. The highest radiation level detected in the interior of the buildings was 100 microrentgens per hour ( $\mu\text{R/hr}$ ). Radiation levels in the parking lots ranged between 200 and 500  $\mu\text{R/hr}$ . Analytical results of the slag samples showed approximate uranium-238 concentrations of 1,010 picocuries per gram (pCi/g), approximate thorium-232 concentrations of 840 pCi/g, and approximate radium-226 concentrations of 205 pCi/g. A risk analysis and evaluation of alternative actions were conducted based on the findings. NYSDOH concluded that the continuing use of both properties did not pose a hazard to either the general public or on-site workers. NYSDOH instructed the property owners to maintain the surface of the parking lot and notify the NYSDOH if the property is sold or the parking lot is disturbed.

In September/October 2006 and May 2007, NYSDEC conducted radiological surveys of the interior and exterior of both properties on several occasions using both an Exploranium-135 and Ludlum 2221. With the exception of an office area and storage space at 9540 Niagara Falls Boulevard that was constructed after the original building directly on top of the asphalt parking lot, interior radiation levels were relatively low. The highest reading in the newer area was 115  $\mu\text{R/hr}$ ; elsewhere throughout the building, radiation levels generally ranged between 10 and 20  $\mu\text{R/hr}$ . Exterior readings taken at waist height generally ranged between 10 and 350  $\mu\text{R/hr}$ , while the maximum reading of 600  $\mu\text{R/hr}$  was recorded on contact (i.e., at the ground surface). At a fenced area behind the building located at 9540 Niagara Falls Boulevard, waist-high readings ranged between 200 and 450  $\mu\text{R/hr}$ , and on-contact readings ranged between 450 and 750  $\mu\text{R/hr}$ . Elevated readings were also observed on the swath of grass between the 9524 Niagara Falls Boulevard property and the adjacent property to the west that contains a hotel, and in the marshy area beyond the parking lot behind the buildings. Two biased samples of slag were collected from locations that exhibited elevated static Ludlum readings: one sample was collected from an area of loose blacktop that indicated readings of 515,905 counts per minute (cpm) on the Ludlum, and one slag sample was collected in the marshy area that indicated readings of 728,235 cpm on the Ludlum. Analytical data for these samples were not found during the file review conducted at NYSDEC or in the NYSDOH files provided to Weston Solutions (WESTON<sup>®</sup>).

In February 2008, NYSDEC collected two samples of slag from the 9540 Niagara Falls Boulevard property and one sample from the 9524 Niagara Falls Boulevard property. The samples were submitted for oxide analysis and elemental analysis; the samples were not submitted for radiological analysis. The analytical results indicated that the material contained small amounts of rare earth elements such as zirconium. In 2010 and 2011, NYSDEC was on site at 9524 Niagara Falls Boulevard property to provide monitoring and oversight during the removal of a flower bed and excavation of an area due to an underground water main break.

In July 2013, NYSDEC conducted a radiological survey of the exterior of both properties using a NaI 2x2 gamma radiation meter and a Victoreen pressurized ion chamber (PIC) radiation meter. An area of broken asphalt showed radiation levels up to 200  $\mu\text{R/hr}$ . An overgrown fenced area containing a soil pile with visible slag behind 9540 Niagara Falls Boulevard showed levels up to 500  $\mu\text{R/hr}$  on the PIC radiation meter and over 600,000 cpm on the gamma radiation meter. NYSDEC observed empty beer cans and old tires positioned as seats in this portion of the site indicating that areas of contamination are readily accessible to the public.

On September 10, 2013, WESTON conducted a radiological survey of the 9524 Niagara Falls Boulevard property using a Ludlum 2221 Scaler Ratemeter. [The property owner of 9540 Niagara Falls Boulevard did not grant access; therefore, the radiological survey did not include that property.] Beginning at the western corner of the property at Niagara Falls Boulevard and the adjacent hotel, WESTON began walking transects at 3-foot intervals measuring gamma radiation levels at waist height. Gamma readings along the grass swath between the 9524 Niagara Falls Boulevard property and the hotel property ranged from 20,000 to 30,000 cpm, and steadily increased to between 40,000 and 50,000 cpm as WESTON proceeded onto the asphalt. By the time WESTON reached the middle of the parking lot in front of the building, radiation levels were consistently over 100,000 cpm. Radiation levels measured on the concrete walkway directly in front of the building were generally below 20,000 cpm. Radiation levels detected while surveying the parking lot on the east side of the building adjacent to 9540 Niagara Falls Boulevard were consistently between 150,000 and 175,000 cpm, and the levels detected at the parking lot behind (i.e., north) of the building were consistently between 180,000 and 190,000 cpm. WESTON surveyed an area of broken asphalt in the rear parking lot; radiation levels ranged from 200,000 to 300,000 cpm. Radiation levels along the edge of the parking

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lot and overgrown brush area behind the building ranged between 30,000 and 40,000 cpm. WESTON also surveyed gamma radiation levels inside the building. Radiation levels at the back entrance were around 25,000 cpm. Once inside the building, levels ranged between 6,000 and 10,000 cpm. The property owner stated that the whole back area (e.g., the lockers, arcade area, and small bowling store) was raised 2 feet with concrete, and that the radiation levels inside the building in this area were greatly reduced as a result. The storage area behind the alley registered levels between 7,000 and 8,000 cpm. The side entranceway, which also had additional concrete added, had radiation levels between 10,000 and 14,000 cpm. Figure 3 depicts the gamma radiation levels of the exterior portion of the property detected during the survey.

There are an estimated 7,170 residents within 1 mile of the site and an estimated 51,488 residents within 4 miles of the site. The site is located approximately 1.7 miles north of the Niagara River. There are not known to be any public or domestic groundwater wells utilized for drinking water within a 4-mile radius of the site. The population within a 4-mile radius of the site receives its drinking water supply from the Niagara Falls Water Board, whose source of water is the Niagara River. There are 4 or 5 workers on site.

Available information documents that radioactive slag is present on site and is releasing radioactivity into the environment; its presence may potentially affect on-site workers, the general population who frequent the property for recreation, and the nearby residential population.

### Part 1 - Superfund Eligibility Evaluation

If all answers are “no” go on to Part 2, otherwise proceed to Part 3.

	YES	NO
1. Is the site currently in CERCLIS or an “alias” of another site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Are the hazardous substances potentially released at the site regulated under a statutory exclusion (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Are the hazardous substances potentially released at the site excluded by policy considerations (i.e., deferred to RCRA corrective action)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Is there sufficient documentation to demonstrate that no potential for a release that could cause adverse environmental or human health impacts exists (e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, documentation showing that no hazardous substance releases have occurred, or an EPA approved risk assessment completed)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please explain all “yes” answer(s).

NA

### Part 2 - Initial Site Evaluation

For Part 2, if information is not available to make a “yes” or “no” response, further investigation may be needed. In these cases, determine whether an APA is appropriate. Exhibit 1 parallels the questions in Part 2. Use Exhibit 1 to make decisions in Part 3.

If the answer is “no” to any of questions 1, 2, or 3, proceed directly to Part 3.

	YES	NO
1. Does the site have a release or a potential to release?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Does the site have uncontained sources containing CERCLA eligible substances?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Does the site have documented on-site, adjacent, or nearby targets?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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If the answers to questions 1, 2, and 3 above were all “yes” then answer the questions below before proceeding to Part 3.	YES	NO
4. Does documentation indicate that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Is there an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but there are nearby targets (e.g., targets within 1 mile)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Is there no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Notes:**

Available information documents the presence of radioactive slag on site.

**EXHIBIT 1**  
**SITE ASSESSMENT DECISION GUIDELINES FOR A SITE**

Exhibit 1 identifies different types of site information and provides some possible recommendations for further site assessment activities based on that information. You will use Exhibit 1 in determining the need for further action at the site, based on the answers to the questions in Part 2. Please use your professional judgment when evaluating a site. Your judgment may be different from the general recommendations for a site given below.

Suspected/Documented Site Conditions		APA	Full PA	PA/SI	SI
1. There are no releases or potential to release.		Yes	No	No	No
2. No uncontained sources with CERCLA-eligible substances are present on site.		Yes	No	No	No
3. There are no on-site, adjacent, or nearby targets.		Yes	No	No	No
4. There is documentation indicating that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site.	Option 1: APA →SI	Yes	No	No	Yes
	Option 2: PA/SI	No	No	Yes	NA
5. There is an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site.	Option 1: APA →SI	Yes	No	No	Yes
	Option 2: PA/SI	No	No	Yes	NA
6. There is an apparent release and no documented on-site targets and no documented targets immediately adjacent to the site, but there are nearby targets. Nearby targets are those targets that are located within 1 mile of the site and have a relatively high likelihood of exposure to a hazardous substance migration from the site.		No	Yes	No	No
7. There is no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site.		No	Yes	No	No

**Part 3 - EPA Site Assessment Decision**

When completing Part 3, use Part 2 and Exhibit 1 to select the appropriate decision. For example, if the answer to question 1 in Part 2 was “no,” then an APA may be performed and the “NFRAP” box below should be checked. Additionally, if the answer to question 4 in Part 2 is “yes,” then you have two options (as indicated in Exhibit 1): Option 1 --conduct an APA and check the “Lower Priority SI” or “Higher Priority SI” box below; or Option 2 -- proceed with a combined PA/SI assessment.

**Check the box that applies based on the conclusions of the APA:**

- |  |  |
|--|--|
| <input type="checkbox"/> NFRAP                         | <input type="checkbox"/> Refer to Removal Program - further site assessment needed |
| <input checked="" type="checkbox"/> Higher Priority SI | <input type="checkbox"/> Refer to Removal Program - NFRAP                          |
| <input type="checkbox"/> Lower Priority SI             | <input type="checkbox"/> Site is being addressed as part of another CERCLIS site   |
| <input type="checkbox"/> Defer to RCRA Subtitle C      | <input type="checkbox"/> Other: _____  |
| <input type="checkbox"/> Defer to NRC                  |  |

**Regional EPA Reviewer:**

\_\_\_\_\_  
 Print Name/Signature

\_\_\_\_\_  
 Date

**PLEASE EXPLAIN THE RATIONALE FOR YOUR DECISION:**

The Higher Priority SI decision is based on: the on-site presence of radioactive slag and on-site targets (e.g., employees), the lack of site access restriction, and the presence of nearby targets (e.g., residences) potentially exposed to site-related contaminants.







Legend

Approximate Block and Lot Boundaries

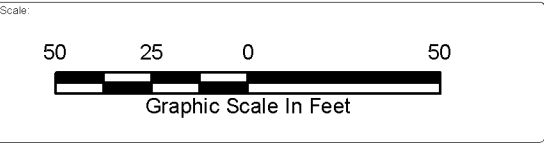
9524

Lot Number

SOURCES:

1. NYS Division of Homeland Security and Emergency Services - Office of Cyber Security. Niagara County 12 Inch Ortho (4bd). <http://www.orthos.dhses.ny.gov/?id=974130>. November 2011.

2. NYS Division of Homeland Security and Emergency Services - Office of Cyber Security. Erie County 12 Inch Ortho (4bd). <http://www.orthos.dhses.ny.gov/?id=974130>. November 2011.



PROJECT:

Niagara Falls Boulevard

CLIENT NAME:

EPA

TITLE:

Site Map  
Niagara Falls Boulevard  
Niagara Falls, NY



DRAWING NUMBER:

13800

FIGURE #

2

DRAWN BY:

J. Lynes

REVIEWED BY:

D. Breen

PROJECT MANAGER:

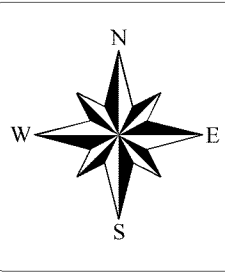
N. Shannon

SCALE:

1" = 50'

DATE:

November 2013







<p>Scale:</p> <p>50 25 0 50</p> <p>Graphic Scale In Feet</p>		<p>TITLE:</p> <p><b>Gamma Radiation Screening Results Map</b></p> <p><b>Niagara Falls Boulevard</b></p> <p><b>Niagara Falls, NY</b></p>		<p>DRAWN BY:</p> <p><b>J. Lynes</b></p>		
<p>PROJECT:</p> <p><b>Niagara Falls Boulevard</b></p>		<p>REVIEWED BY:</p> <p><b>N. Shannon</b></p>		<p>PROJECT MANAGER:</p> <p><b>N. Shannon</b></p>		
<p>CLIENT NAME:</p> <p><b>EPA</b></p>		<p>DRAWING NUMBER:</p> <p><b>13614</b></p>		<p>SCALE:</p> <p><b>1" = 50'</b></p>		
		<p>FIGURE #</p> <p><b>3</b></p>		<p>DATE:</p> <p><b>September 2013</b></p>		



## REFERENCES

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